PI.16 Non-Intrusive Liquid Level Detection

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Abstract

During June and July of 1999, Infrared Inc., of Reno, Nevada successfully demonstrated a Non-Intrusive Liquid Level Detection System (NLLDT). The NLLDT System provides an attractive alternative to the baseline procedure that employs mechanical methods of opening tanks, vessels and piping assemblies to visually detect liquids or other foreign materials. The NLLDT is able to exploit the variations in physical properties of tanks, vessels and piping systems and the enclosed liquid and air to produce clearly defined location of liquids, if they exist. For decontamination and decommissioning (D&D) projects, the NLLDT System can be used to remotely locate liquids in vessels while providing optimum safety from radiation and contaminates for the operators. This demonstration was conducted with the goal of characterizing a number of target vessels located at the Hanford site on the canyon deck of the 221 U facility. This technology is suitable for DOE nuclear facilities D&D sites or similar public or commercial sites that must be decommissioned.